STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING
SUITE 700, JAMES K. POLK BUILDING
505 DEADERICK STREET
NASHVILLE, TENNESSEE 37243-1402
(615) 741-0791

JOHN C. SCHROER
COMMISSIONER

BILL HASLAM
GOVERNOR

TO: Chuck Rychen
Assistant Chief Engineer of Operations

FROM: Brad Freeze, Director of Traffic Operations

SUBJECT: **Proprietary Item Request and Justification**
City of Crossville
Traffic Signal Detection Equipment

Traffic Signal Detection Equipment: The City of Crossville is requesting that Wavetronix (radar) traffic signal detection equipment be used in all signalization projects within the City over the next three years where Federal and/or State funding is used. The radar detection equipment includes both SmartSensor Matrix for stop bar detection and the SmartSensor Advance for advanced approach detection. This request is based on the necessity to provide highly reliable detection for the synchronization with the existing traffic signal systems operated and maintained by the City. The following are justification items for this request:

The City of Crossville is currently installing two intersections with Wavetronix radar detection. Because of the re-occurring maintenance costs of replacing loops with a failure rate of 75% of the signal loops within 1.5 years of installation, the City has standardized plans to install Wavetronix radar detection on all new signals and convert existing signals as the current loop detection fails. The City has seen excellent performance with this system for a number of years with little or no maintenance required. In addition, a cost savings over time is expected because this system will not have to be replaced when milling/resurfacing is done as compared to loop installations.

The City of Crosville staff has been extensively trained to install, operate, maintain, and troubleshoot the Wavetronix detection system. By utilizing this detection system as the standard for the City, there will be a cost savings in stocking replacement equipment and will result in faster and less costly repair.

I, Brad Freeze, Director of the Traffic Operations Division of the Tennessee Department of Transportation, do hereby certify that in accordance with the requirements of 23 CFR 635.411(a) (2) that the patented or proprietary items listed above are essential for the synchronization of existing facilities.

Assistant Chief Engineer of Operations

Date

City of Crossville
Engineering Department

392 N Main St.
Crossville, TN 38555
Phone 931-484-5113
Fax 931-484-7713

January 28, 2016

To: Steve Bryan
Tennessee Department of Transportation
505 Deaderick St. Suite 1200
Nashville, TN 37243

RE: Request for Proprietary Traffic Signal Products Certification.
(Traffic Signal Detection System)

Dear Mr. Bryan:

The City of Crossville would like to request the use of Wavetronix Smart Sensor Matrix and the Smart Sensor Advance Radar detection on all Traffic Signal projects maintained by the City of Crossville which are Federally and/or State funded for the next three years.

Currently Loop detection operates 39 of 40 signalized intersections operated and maintained by the City of Crossville. The loop detection has become increasingly problematic. The recently upgraded (2010) intersection of I-40 and SR 298 (Genesis Rd) had a failure rate of 75% of the signal loops within 1.5 years of installation. The intersection I-40 and SR 101 (Peavine Rd) had a failure rate of 50% of the signal loops within 2 years of installation. The City plans to install this detection system on all new signals and convert existing signals as the current detection fails. We currently have 2 signalized intersection that we are installing the radar detection equipment.

The City of Cleveland TN and Oak Ridge TN have had Wavetronix detection systems operating for several years at numerous intersections with excellent performance. A cost savings over time is expected because this system will not have to be replaced when milling and resurfacing is performed. Using this detection system will also eliminate the need for shelf or rack mounted detectors inside the traffic signal cabinet and eliminate the installation of loop wires in the roadways. All components of this detection system are above ground which makes it quicker to repair or to replace.

The City of Crossville's signal technicians have been trained to maintain, program, and troubleshoot Wavetronix Smart Sensor Matrix and the Smart Sensor Advance Radar detection. We believe that the use of Wavetronix Smart Sensor Matrix and the Smart Sensor Advance Radar detection will allow the signal systems to be maintained and repaired efficiently with minimized down time due familiarity with this product line.

Should you have any questions please call me at 931-456-6172.

Sincerely,

Tim Begley

Tim Begley
Director of Engineering